

# “I looked it up in DeepL”: Machine translation and other digital tools in the language classroom

# Speakers

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## Digital literacy in university contexts (DigLit)

As digitalisation progresses, new technologies can offer valuable support to academic writers. However, research and practice show that students and their lecturers are often not aware of the applicability of available tools and are unable to exploit their full potential. These are the issues addressed by the DigLit project, supported by swissuniversities and the partner institutions.

↓ [Objectives](#)

↓ [Funding and duration](#)

↓ [Partner institutions](#)

↓ [Team and contact](#)

Writing in most contexts today is done with digital, computer-assisted support. Technologies based on artificial intelligence (AI) such as intelligent tutoring (IT), automated writing evaluation (AWE) and machine translation (MT) present new opportunities, perspectives, and risks for tertiary education. The challenge in university contexts is to determine how the advantages of AI-related technology can be leveraged in language teaching and academic writing while minimizing potential issues such as ineffective communication, miscommunication, and misuse (e.g. plagiarism). The main goal of the project is to show how they can be brought systematically into classrooms and coaching as surrogates for how to exploit AI in education, empowering lecturers and students by



<https://www.zhaw.ch/en/linguistics/digital-literacy-in-university-contexts-diglit/>



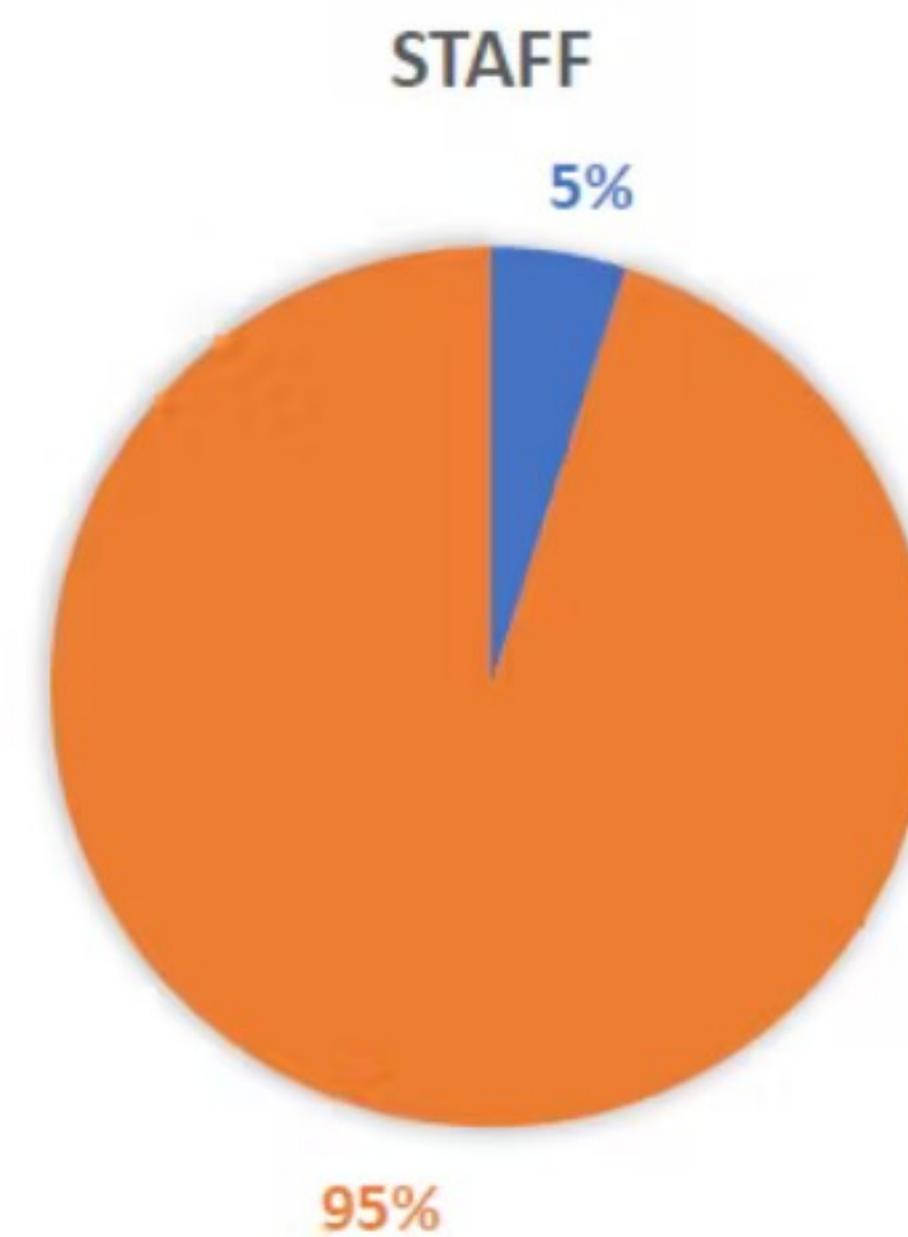
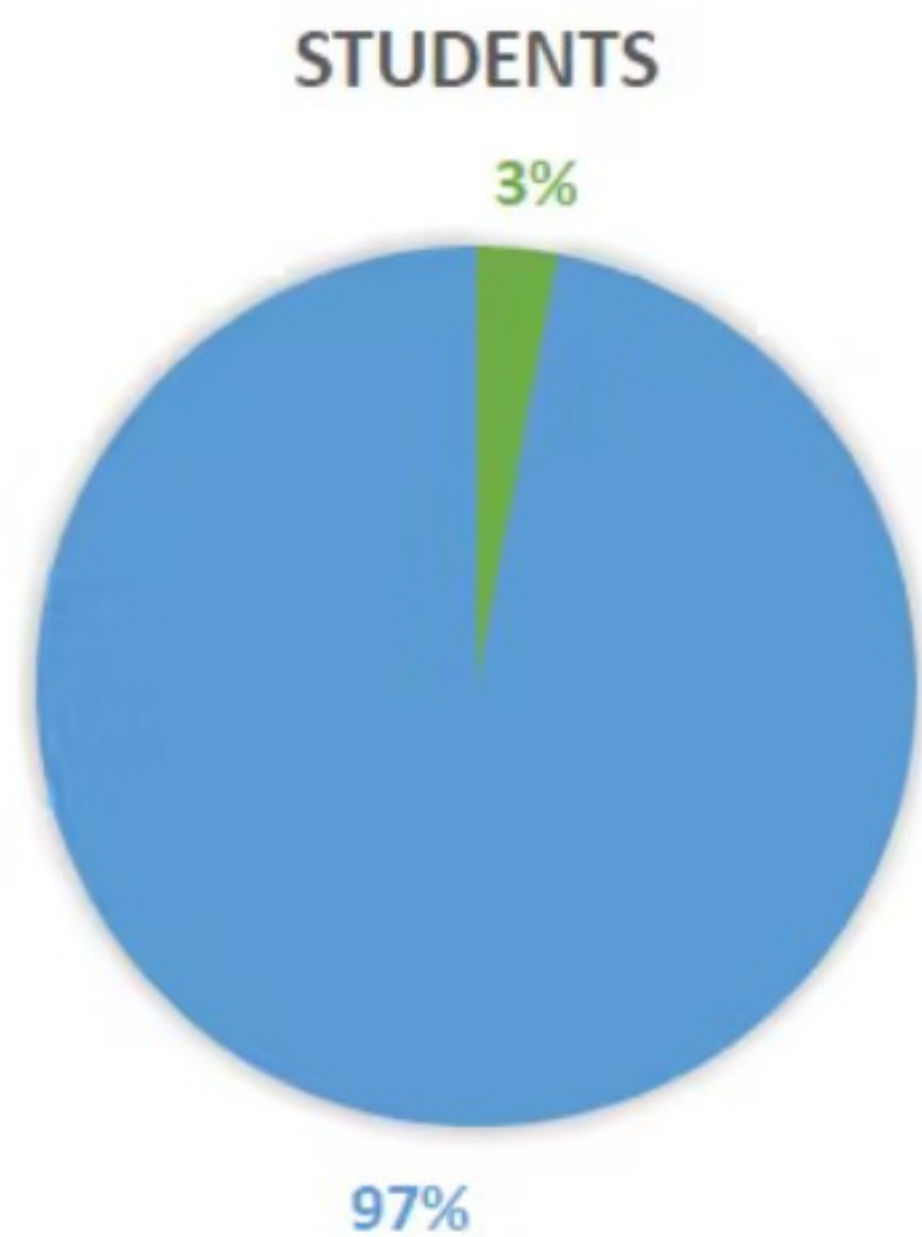
# Survey

- 4 participating universities (spring 2021) and all Swiss universities (winter 2021/2022)
- Students, teaching and administrative staff
- 6,504 participants: 3,713 responses for the first (spring 2021) and 2,491 for the second (winter 2021/2022)
- 2,828 students, 2,522 members of staff and 79 language teachers

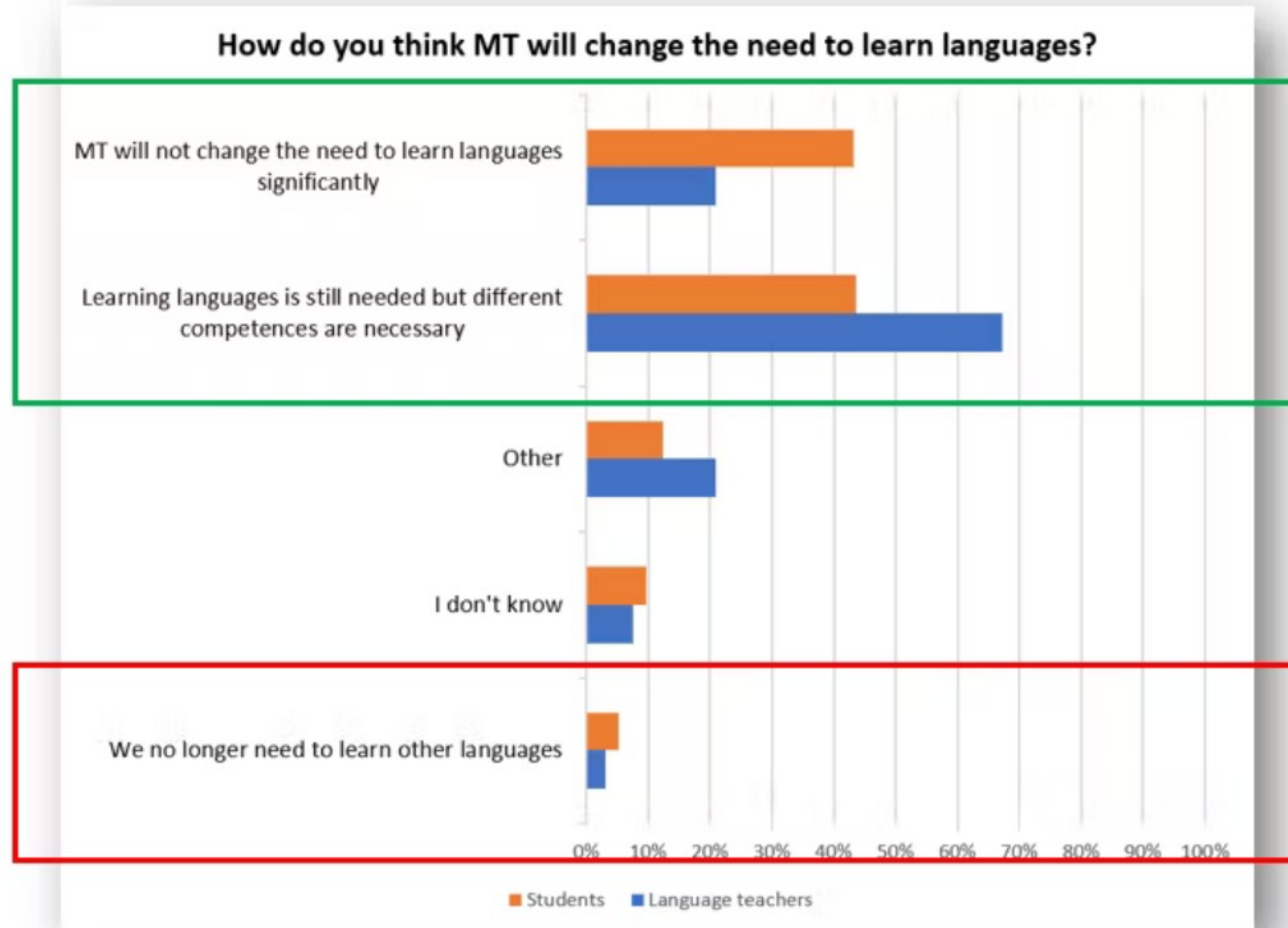


# Survey results

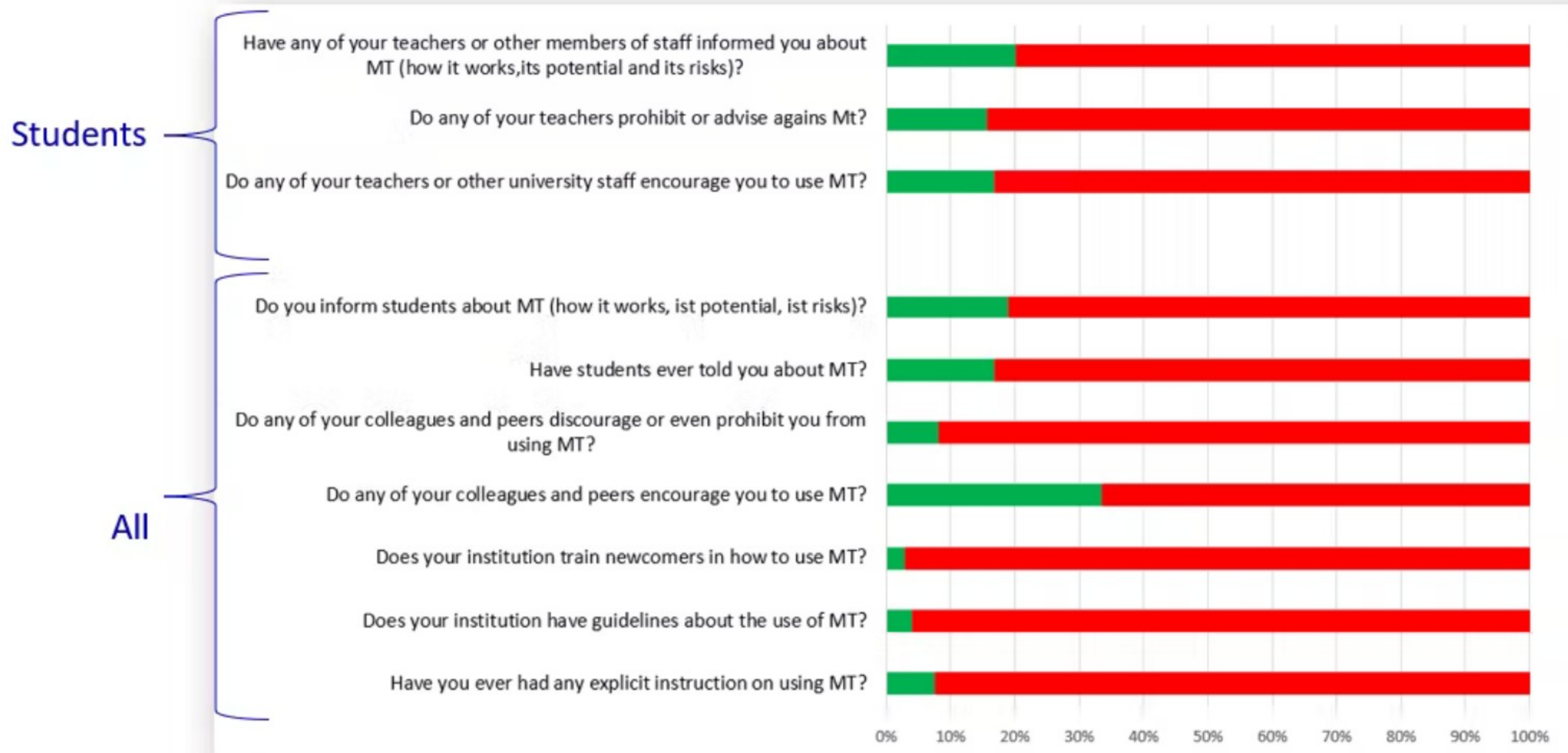
Have you ever used a machine translation system (e.g. Google Translate or DeepL)?



# Survey results



# Survey results

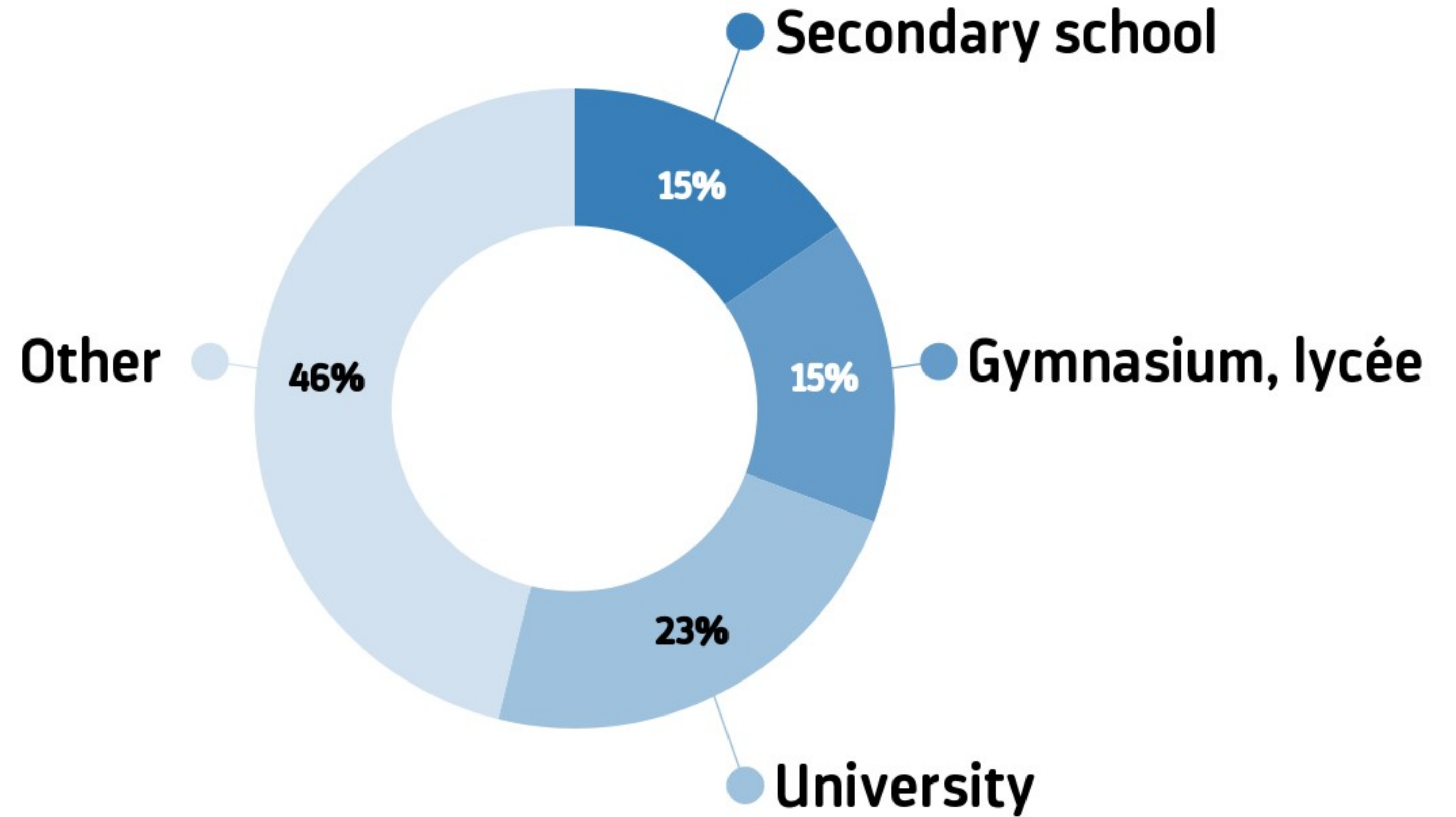


# Instructions





# Where do you teach?



# What are you expecting to learn from this workshop?

How to integrate Digital tools into teaching

Whatever I can

How to react when Ss use MT for whole texts

New tools to use in class.

Be able to advise ss better regarding the use of machine translation (leo.org vs deepL etc.).

MT and its use out/in classroom.  
Beneficial or not when learning English?

Current use of digital tools.

How to help ss learn how to use ML.

Exercises to use with students to increase MT literacy. Ethical concerns with MT

# What are you expecting to learn from this workshop?

Learn about digital tool my students  
and I can use

Problems with translation  
programs.How to use it

What to focus on competency wise to  
enhance st using of MT

Google translate and deepL

So useful

so useful

# What pops up in your head when you hear: MACHINE TRANSLATION?

google translate





# Part I: What is machine translation (MT)?



# NMT in the news

Translation platforms cannot replace humans  
*But they are still astonishingly useful*  
29 April 2017



SDL *Cracks* Russian to English Neural  
Machine Translation  
19 June 2018



DeepL: Cologne-based startup  
*outperforms* Google Translate  
5 December 2018



Lilt is building a machine translation business  
with *humans at its core*  
11 February 2019



SYSTRAN partners with TED  
30 September 2020



# NMT in the news, but...

2017

**Facebook translates 'good morning' into 'attack them', leading to arrest**

**Palestinian man questioned by Israeli police after embarrassing mistranslation of caption under photo of him leaning against bulldozer**

2020

**Facebook apologizes for translating Chinese leader Xi Jinping's name as 'Mr. Shithole'**



# MT and corpora

The screenshot shows the DeepL Linguee website. At the top left is the DeepL logo. Next to it are the words 'Traducteur' and 'Linguee', with 'Linguee' underlined. On the right is a hamburger menu icon. Below the logo is the 'Linguee' brand name in a large, blue, serif font. To the right of the brand name is a language selector showing 'français' and 'anglais' with a double-headed arrow between them. Below the language selector is a dropdown menu with a downward arrow and a list of characters: 'à â é è ê ë ï î ð ù û ç œ æ'. Below that is a search bar containing the word 'leverage' and a magnifying glass icon on the right.

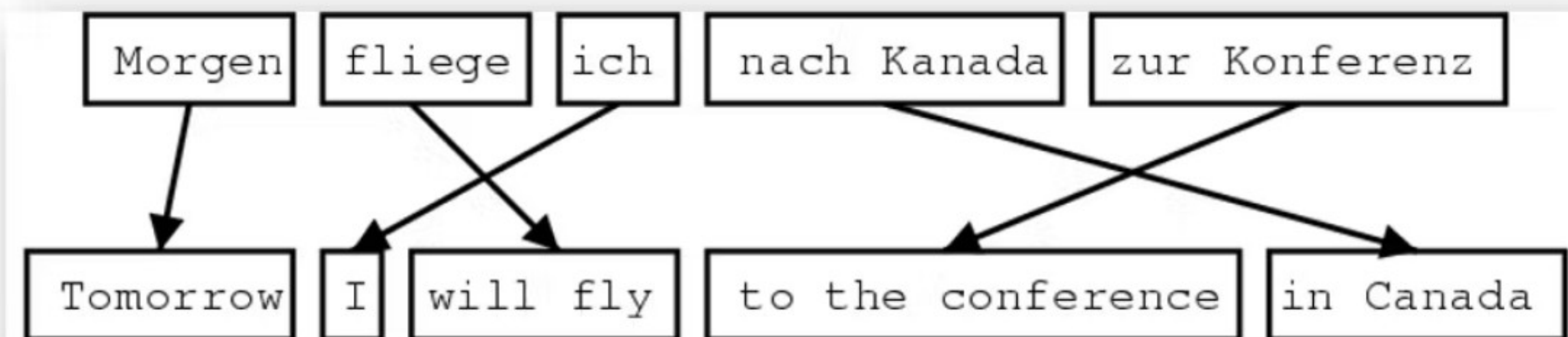
## ^ Sources externes (non révisées)

We have a particular <b>leverage</b> that we can exercise. We have no colonialist legacy in Africa. <a href="#">↗ www2.parl.gc.ca</a>	Nous avons un <b>atout</b> que nous pouvons utiliser: nous n'avons pas de passé colonial en Afrique. <a href="#">↗ www2.parl.gc.ca</a>
We are, with this motion, urging the Commission to use that <b>leverage</b> , and we hope they will. <a href="#">↗ europarl.europa.eu</a>	Par cette résolution, nous appelons la Commission à utiliser cet <b>instrument</b> , et nous espérons qu'elle agira ainsi. <a href="#">↗ europarl.europa.eu</a>
The new rules will set common requirements in various areas, such as <b>leverage</b> (use of debt to finance investments), governance standards and transparency. <a href="#">↗ consilium.europa.eu</a>	[...] communes dans différents domaines, notamment en matière de <b>levier</b> (recours à l'emprunt pour financer l'investissement), de [...]. <a href="#">↗ consilium.europa.eu</a>
Financial institutions with high <b>leverage</b> are a good example here. <a href="#">↗ ecb.europa.eu</a>	Les institutions financières à haut <b>effet de levier</b> illustrent bien cette situation. <a href="#">↗ ecb.europa.eu</a>
Specific criteria include the top-level industrial commitment and the capacity for <b>leverage</b> of national and private funding in the case of Joint Technology Initiatives. <a href="#">↗ cordis.europa.eu</a>	Les critères spécifiques incluent l'engagement industriel au plus haut niveau et la capacité d' <b>effet de levier</b> du financement national et privé dans le cas d'initiatives technologiques conjointes. <a href="#">↗ cordis.europa.eu</a>
UNAIDS will <b>leverage</b> its comparative advantage as convener to assume a central role in brokering such a compact. <a href="#">↗ unaids.org</a>	L'ONUSIDA tirera parti de son avantage comparatif d'organisateur pour assumer le rôle central dans la négociation de ce compact. <a href="#">↗ unaids.org</a>
[...] this point of view capital requirements, valuation and <b>leverage</b> , provisioning regimes as well as banks' compensation schemes. <a href="#">↗ ecb.europa.eu</a>	[...] vue les exigences de fonds propres, la valorisation et l' <b>endettement</b> , les systèmes de provisions ainsi que les mécanismes de [...]. <a href="#">↗ ecb.europa.eu</a>
We have not heard any information from Mr Solana about what <b>leverage</b> is going to be used in relation to Russia and Chechnya. <a href="#">↗ europarl.europa.eu</a>	M. Solana n'a donné absolument aucune information sur les leviers qui seront utilisés en ce qui concerne la Russie et la Tchétchénie. <a href="#">↗ europarl.europa.eu</a>
In many cases, charges are being used as <b>leverage</b> to gain the cooperation of defendants. <a href="#">↗ justicecanada.ca</a>	Dans de nombreux cas, les accusations servent de moyen de pression pour obtenir la coopération des accusés. <a href="#">↗ justicecanada.ca</a>

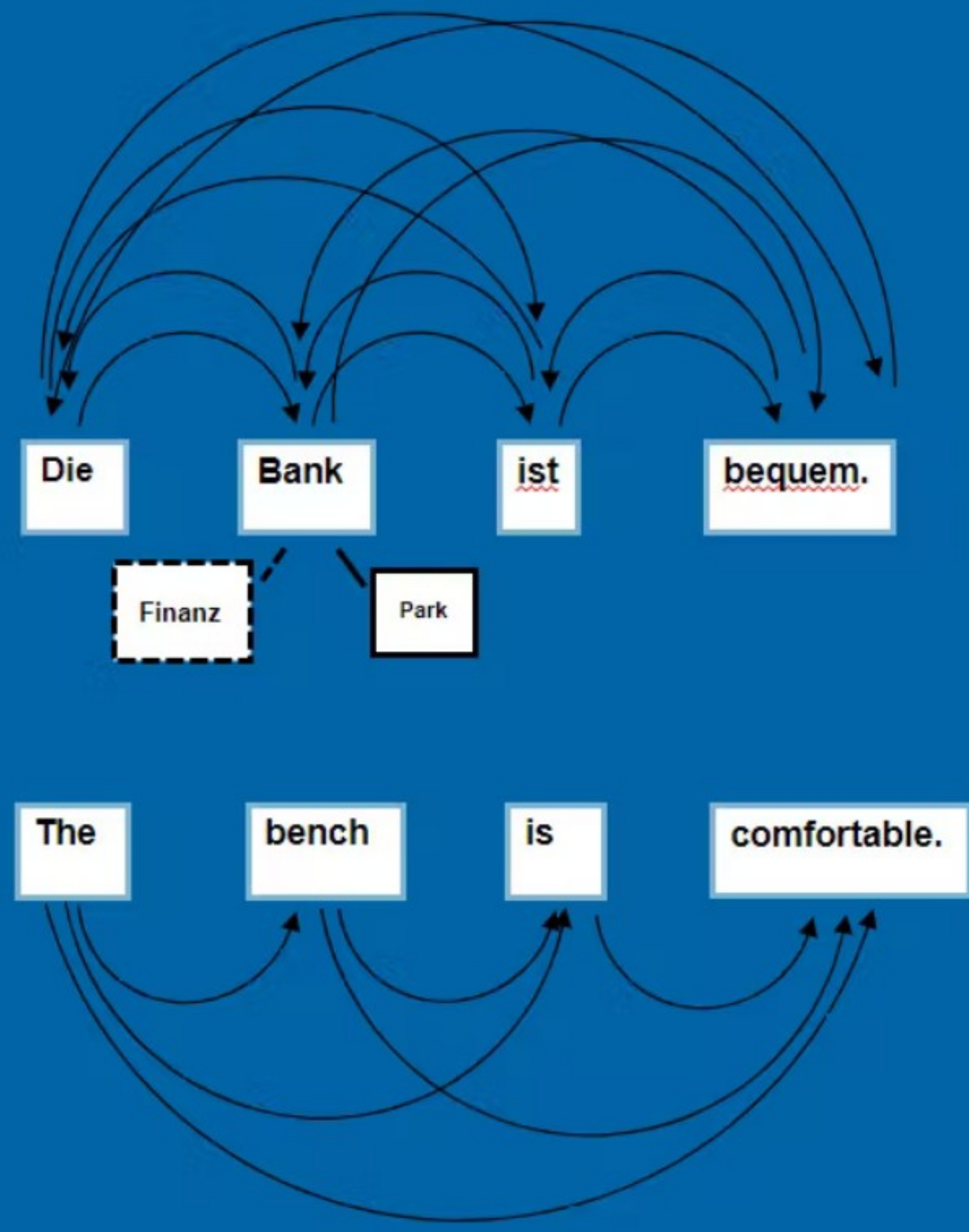




# How MT used to work



# neural machine translation



How it works today



Allemand (langue détectée) ▾

In einem gemeinsamen Forschungsprojekt untersuchten die ZHAW und die USI den öffentlichen Diskurs im ersten Jahr der COVID-Pandemie in der Schweiz. Im Zentrum stand dabei **die Frage**, wie die 15- bis 34-Jährigen im Diskurs dargestellt wurden und wie sie diesen wahrnahmen.



Anglais (GB) ▾

Glossaire

In a joint research project, the ZHAW and the USI investigated the public discourse in the first year of the COVID pandemic in Switzerland. **The focus was on the question** of how 15-34 year olds were portrayed in the discourse and how they perceived it.

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## How NMT works



Français (langue détectée) ▾	↕	Anglais (GB) ▾	Glossaire
enceinte	×	speaker	
		Autres traductions :	
		enclosure	
		loudspeaker	
Français (langue détectée) ▾	↕	Anglais (GB) ▾	Glossaire
enceinte d'un garçon	×	pregnant with a boy	
		Autres traductions :	
		pregnant with a son	
		pregnant with a baby boy	
Français (langue détectée) ▾	↕	Anglais (GB) ▾	Glossaire
enceinte du château	×	castle grounds	
		Autres traductions :	
		the castle grounds	

## How NMT works



# Common concerns: gender bias

<p>Anglais ▾</p> <p>I met a second-grade teacher yesterday.</p> <p>⊗</p> <p>🔊</p>	<p>↕</p> <p>Allemand ▾</p> <p>automatique ▾ Glossaire</p> <p>Ich habe gestern eine Lehrerin der zweiten Klasse getroffen.</p> <p>🔊 👍 👎 📄 🔗</p>
<p>Anglais ▾</p> <p>I met a university teacher yesterday.</p> <p>⊗</p> <p>🔊</p>	<p>↕</p> <p>Allemand ▾</p> <p>automatique ▾ Glossaire</p> <p>Ich habe gestern einen Hochschullehrer getroffen.</p> <p>🔊 👍 👎 📄 🔗</p>



# Common concerns: gender bias



Translate from **English** (detected) ▾

The patient complained that the doctor had not yet greeted him, although she had walked past earlier.

Translate into **German** ▾

Die Patientin beschwerte sich, dass der Arzt ihn noch nicht begrüßt hatte, obwohl sie schon früher vorbeigegangen war.

Translate into **French** ▾

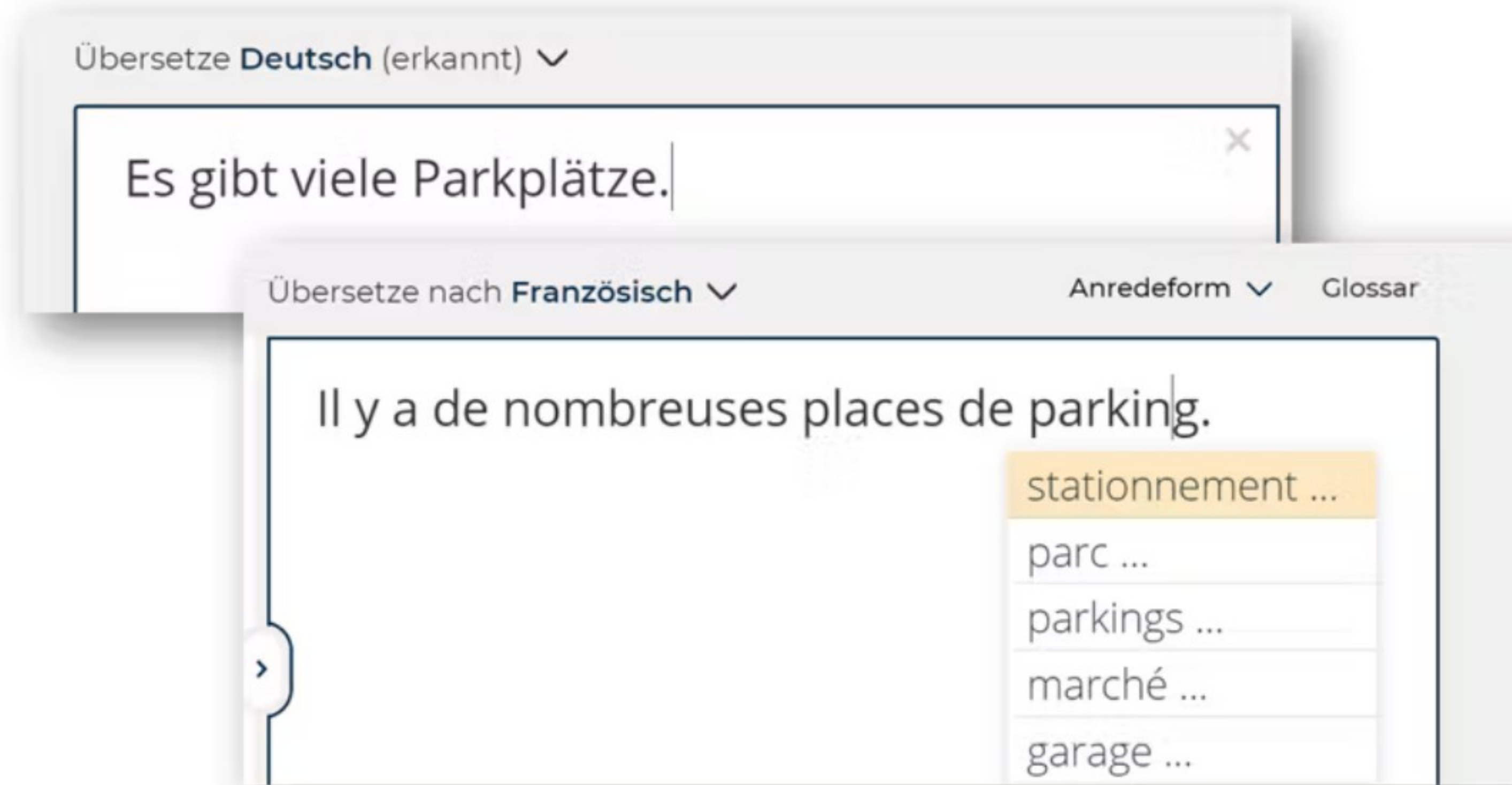
La patiente s'est plainte que le médecin ne l'avait pas encore accueilli, bien qu'elle soit passée plus tôt.

Translate into **Italian** ▾

La paziente si lamentava che il medico non l'aveva ancora salutato, anche se lei era passata prima.



# Common concerns: variations and dialects



# Common concerns: ethics and environment



Plagiarism



Environmental footprint



Privacy/confidentiality

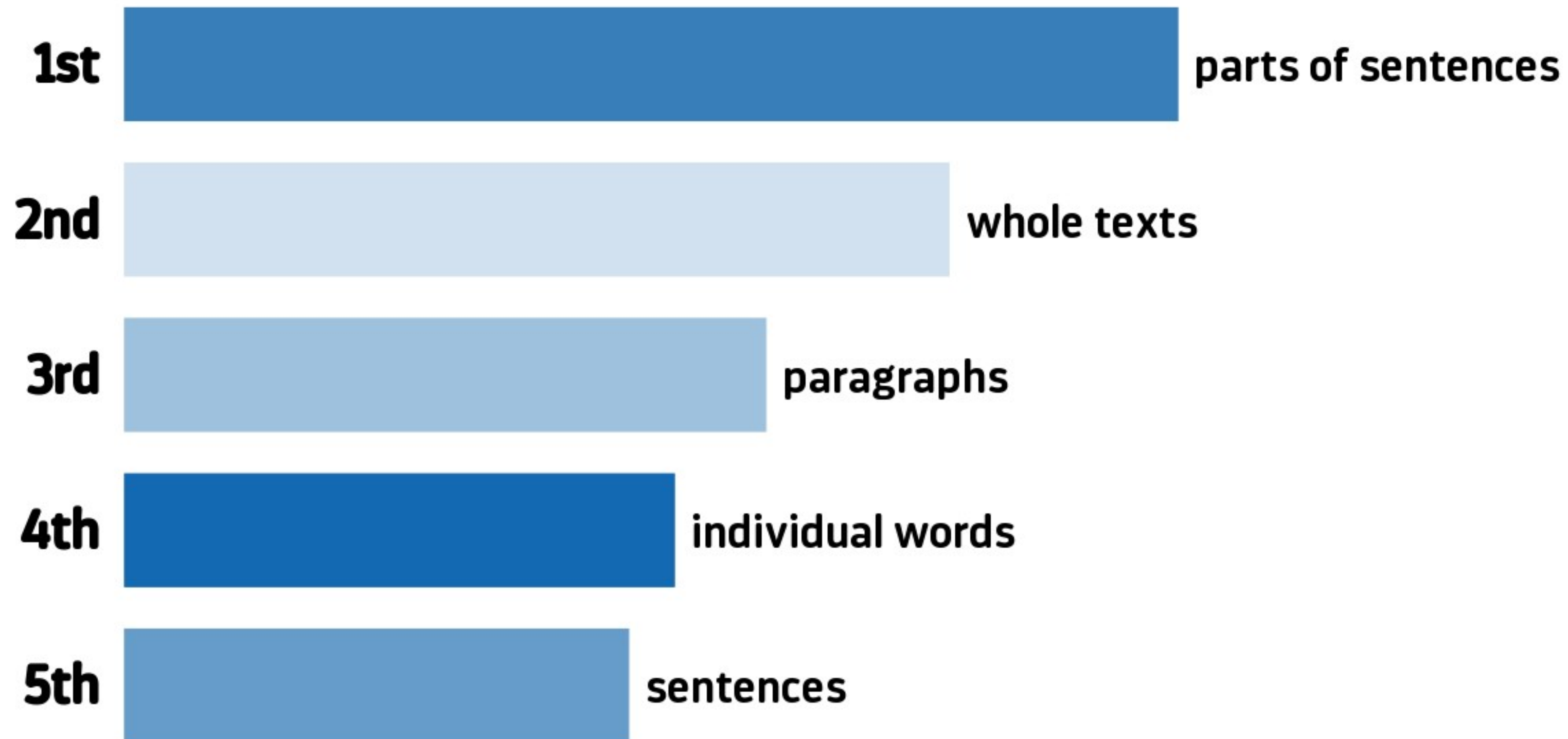


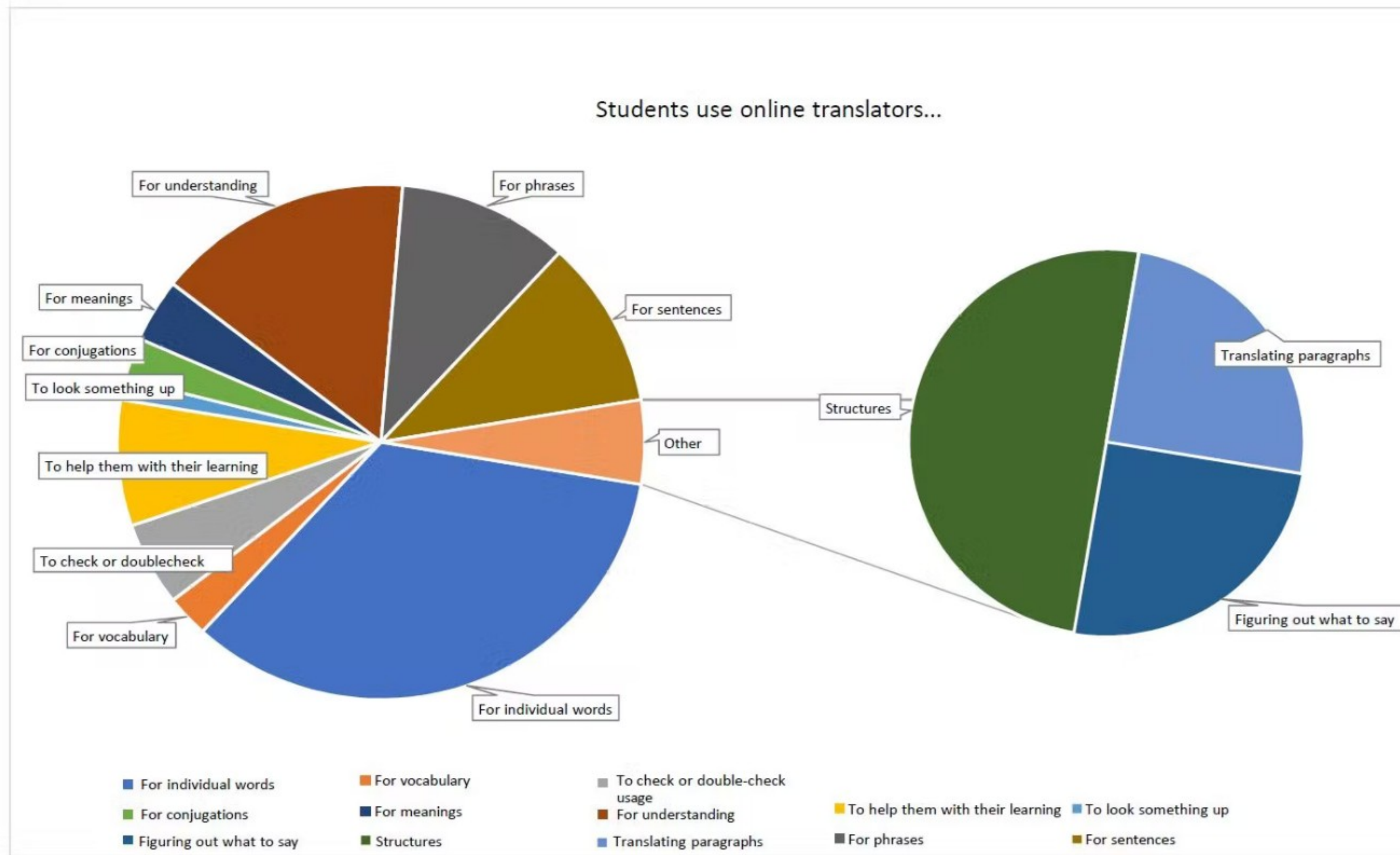


# Part II: the jungle of digital tools



# What units do you think your students put in MT systems?





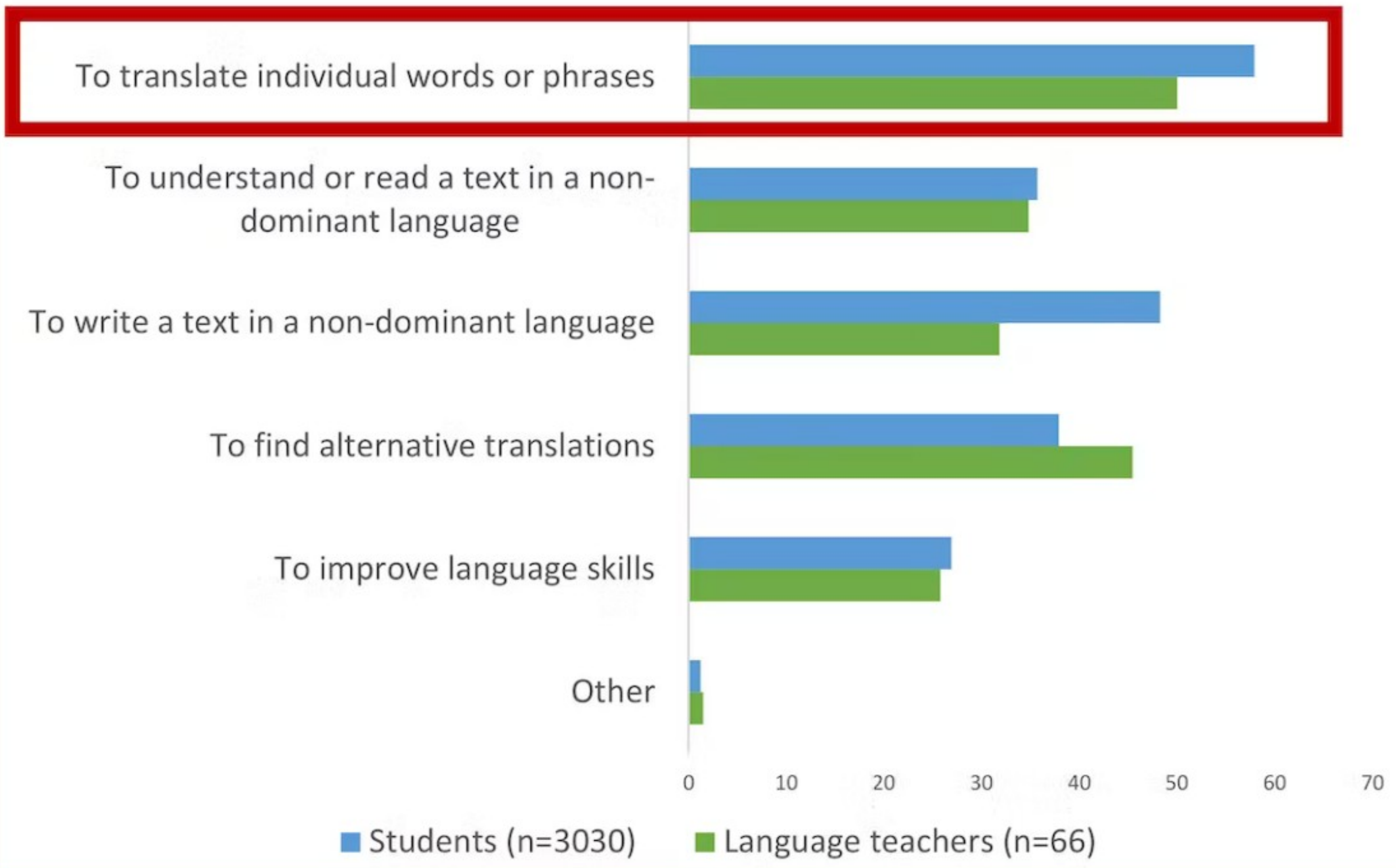
**Adapted from O'Neill (2019) : survey of 310 university students , courses in Spanish or French, USA**



# Indeed...

Delorme Benites et al. 2021

## How/Why to you use machine translation?



# Previous findings

## High-school pupils use MT to ...

- "understand a word"
- "check up a word's meaning before they use it"
- Bourdais & Guichon 2020

## University students use MT ...

- and online dictionaries (OD) for the same purposes
- O'Neill 2019

## Higher education teachers and staff consider that using MT as OD

- is acceptable
- less ethically challenging than translating whole texts
- Groves & Mundt 2021

## MT as thesaurus

Answers to the questions in all three languages:

"Other reasons to use MT?" and "Other changes in the need to learn languages?"

*When I need to translate phrases or **synonyms** for which I cannot find a good equivalent of the top of my head (ZHAW-982)*

*Als Inspiration, Synonymsuche (ZHAW-851)*

*Kann helfen zu verstehen und **Synonyme** kennen zu lernen (ZHAW-919)*

*Pour trouver des **synonymes** dans une langue seconde (UniNE-3649)*

## MT as thesaurus

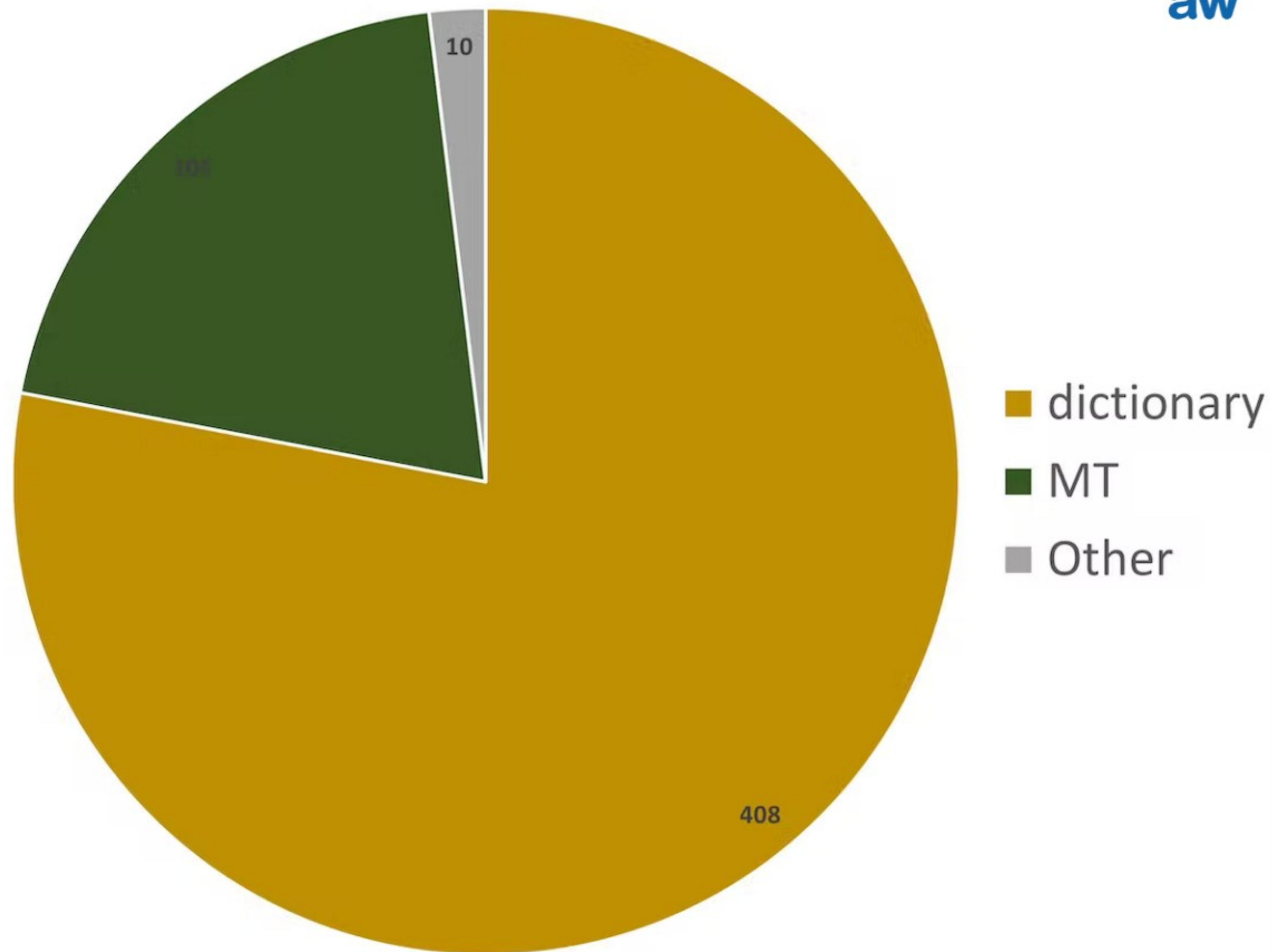
These uses stem from the use of MT as a dictionary → **easier** than a thesaurus as the word is thought to be **'in context'**

*Je peux chercher une expression dans un contexte (DeepL) ou obtenir une **liste exhaustive de synonymes** et d'expressions dans la langue cible (Leo, Google Translate) (BFH-1552)*

*Par contre, Google T donne beaucoup plus de synonymes que DeepL donc pour les mots individuels il est parfait. (UNINE-159)*

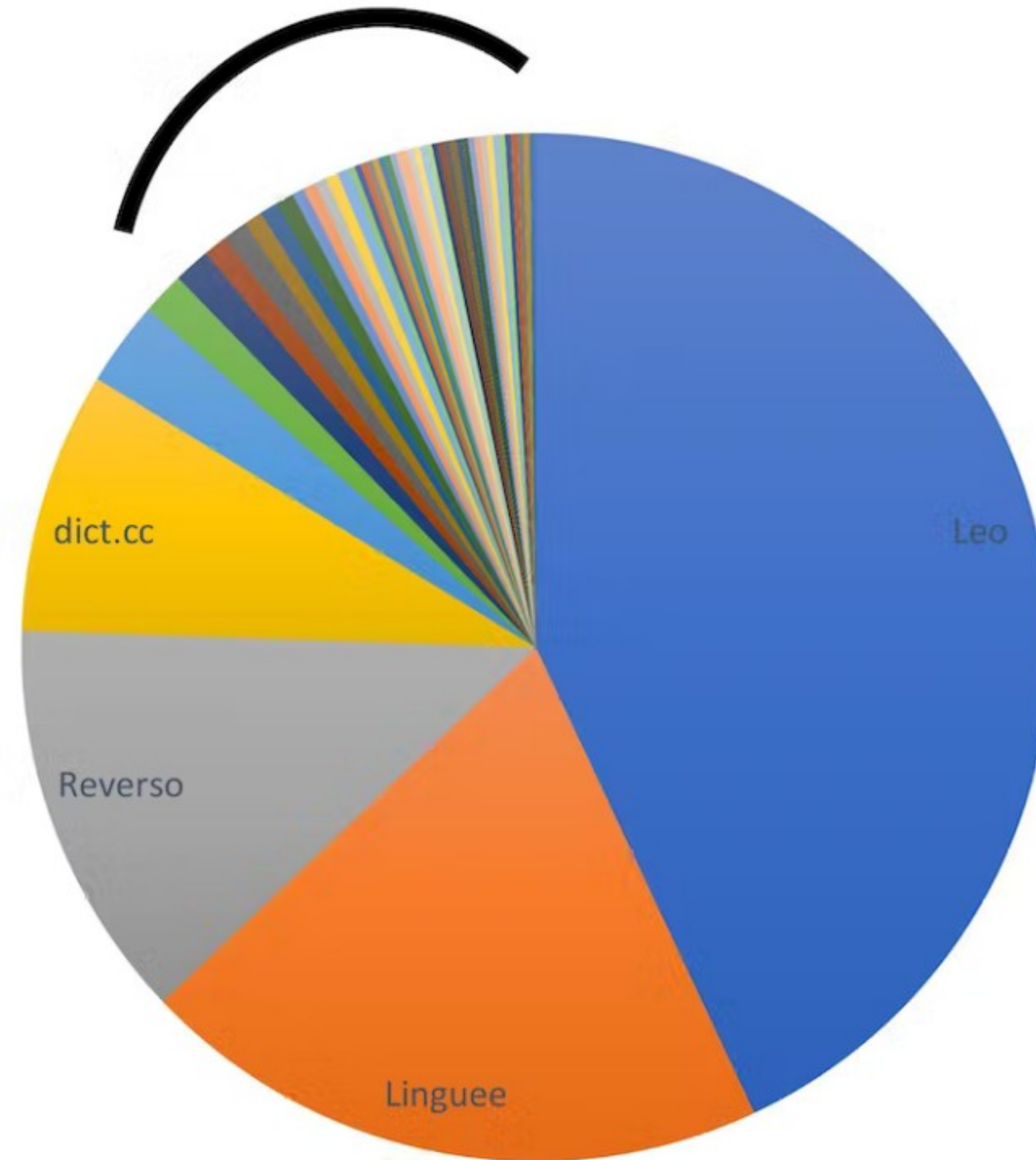
→ Mix-up of different tools that are used indiscriminately.

What *type* of tools do they mention using?





# What tools do they mention using?



- Leo
- Linguee
- Reverso
- dict.cc
- iTranslate
- WordReference
- Microsoft Translator
- Grammarly
- Pons
- Babel Fish
- Oxford Dictionary
- Papago
- Collins
- Duden
- Termdat
- Thesaurus
- Dictionary
- Babylon Translator
- Bing Translator
- Casio EW-G6500C
- Company translator
- DicoLatin
- DocTranslator
- Facebook Translator app
- Globalese
- Glosbe Translate

# Different bilingual tools

## Machine translation systems (MT)

Artificial intelligence



## Aligned bilingual corpora

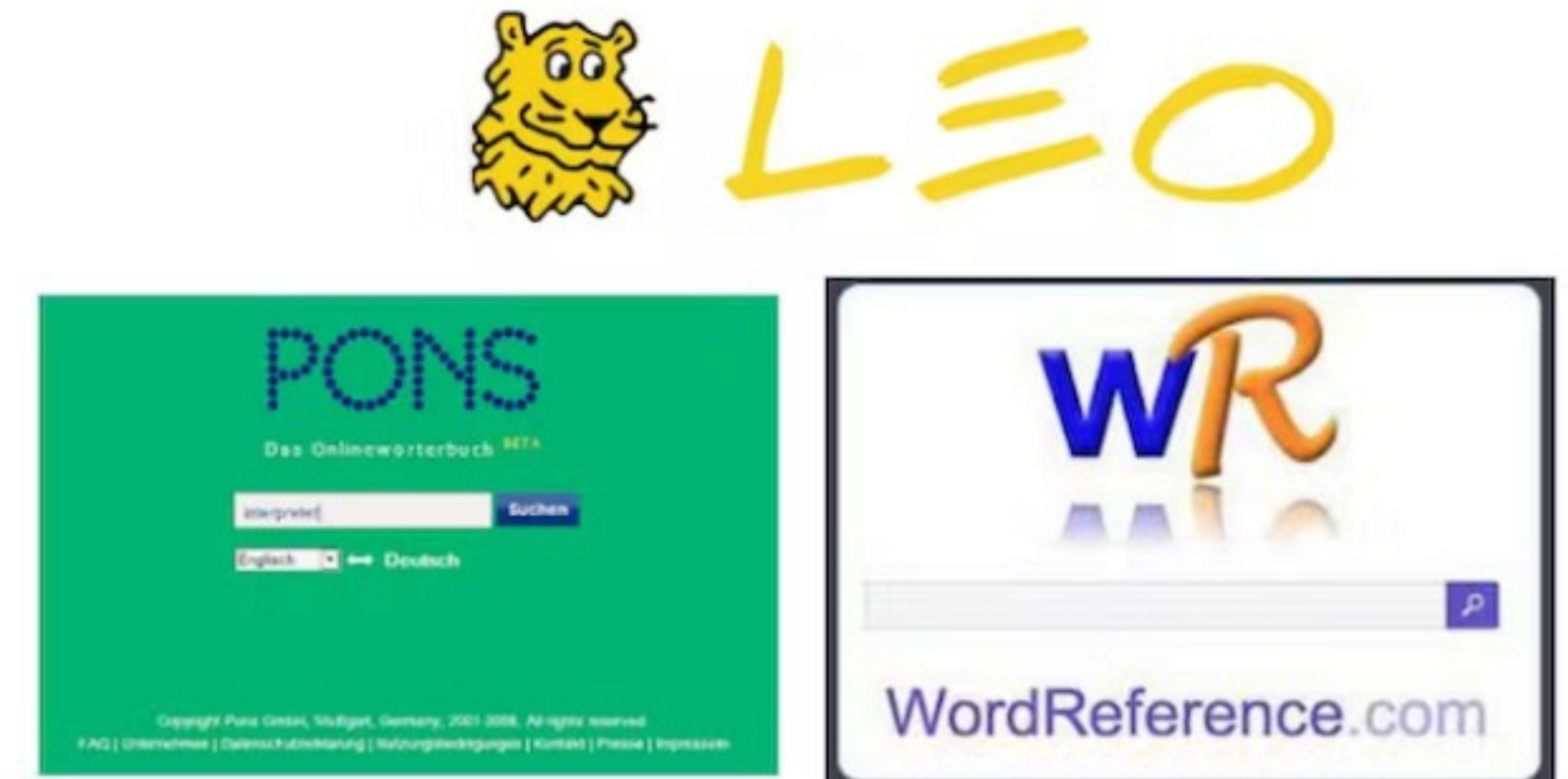
often aligned automatically



## Bilingual dictionaries

unequal content:

< lexicographers,  
< wiki, art. intelligence  
often, we don't know...



DeepL Translator **Linguee**

English ↔ French

enceinte

^ Dictionary French-English

**enceinte** *adj* adjective, feminine

**pregnant** *adj* (often used)

Elle est enceinte de son deuxième enfant. She is pregnant with her second child.  
Il prend en considération les besoins de sa femme enceinte. He takes his pregnant wife's needs into consideration.

**expecting** *adj*

Sa femme est enceinte. His wife is expecting.

*less common:*

**expectant** *adj*

**enceinte** *n* noun, feminine (plural: enceintes f)

**speaker** *n* (plural: speakers)

La chaîne stéréo a des enceintes intégrées. The stereo system has built-in speakers.

**enclosure** *n* (plural: enclosures)

Il a demandé où se trouvait l'entrée principale de l'enceinte. He asked where to find the main entrance of the enclosure.

**compound** *n* (plural: compounds)

Des soldats gardent l'enceinte sécurisée. Soldiers guard the secured compound.

*less common:*

**loudspeaker** *n* · **grounds** *pl* · **precinct** *n* · **containment** *n* · **arena** *n*  
**speaker cabinet** *n* · **close** *n* · **rampart** *n*

**Examples:**

femme enceinte f — pregnant woman n — expectant mother n — pregnant wife n — pregnant female n  
tomber enceinte v — get pregnant v — conceive v  
enceinte climatique f — climatic enclosure n

© Linguee Dictionary, 2022

^ External sources (not reviewed)

Je me permets d'employer l'anglicisme et je m'en excuse auprès des anciens professeurs de français qui se trouvent dans cette <b>enceinte</b> .	I allowed myself the use of the anglicism in the other official language, and I apologize to any former French teachers among us.
Je ne pourrais pas quitter cette <b>enceinte</b> sans exprimer ma reconnaissance envers nos représentants du service extérieur [...]	I could not leave <b>this place</b> without being thankful for the extraordinary efforts of the representatives of our foreign [...]
Avant d'introduire dans son <b>enceinte</b> des produits autres que des fourrages destinés au séchage et/ou au broyage, en vue de [...]	Before bringing onto its premises products other than fodder to be dried and/or ground for the manufacture of mixtures, the [...]
Dans certains cas, la femme <b>enceinte</b> peut être écartée du milieu de travail nocif.	In some cases, a <b>pregnant woman</b> can be removed from a harmful work environment.
Veillez noter que toutes les connexions externes sont effectuées sur l'unité de base VARI, sur la partie inférieure de la colonne <b>d'enceinte</b> .	Note that all external connections are made to the VARI base unit, at the bottom of the loudspeaker column.
Il ne peut pas s'agir d'un avortement, puisque la femme n'est pas <b>enceinte</b> .	It cannot be an abortion if you <b>are not pregnant</b> .
Ce programme m'a fait réaliser que même <b>enceinte</b> , ou avec un bébé, ça ne veut pas dire que je ne peux rien faire.	This program made me realize that even though <b>I'm pregnant, or have a baby</b> , it doesn't mean I can't do things.
Une femme <b>enceinte</b> ou allaitante incarcérée bénéficie d'un traitement approprié.	A prisoner who is <b>pregnant or breastfeeding</b> receives appropriate treatment.
Une femme qui suit un traitement ARV et qui est <b>enceinte</b> court un grand risque de donner naissance à un enfant sérieusement difforme.	A woman who takes ARVs and becomes <b>pregnant</b> has a high risk of giving birth to a seriously deformed child.
Les directives précisent que la dose d'une femme <b>enceinte</b> ne devrait pas dépasser 1 à 2 unités une ou deux fois par semaine.	The guidelines say that no more than 1 or 2 units once or twice a week should be the benchmark for you.
[...] au-delà d'une certaine limite du camp où ils sont internés ou, si ce camp est clôturé, de ne pas en franchir <b>l'enceinte</b> .	[...] certain limits, the camp where they are interned, or if the said camp is fenced in, of not going outside its perimeter.
[...] pour l'enfant qui va naître, il faut déconseiller à toute femme pouvant tomber <b>l'être enceinte</b> toute consommation d'alcool.	[...] effect on the unborn life, then we must advise all women who are or who may become <b>pregnant</b> against drinking any alcohol.
Si <b>l'enceinte</b> à monter se compose d'une base VARI et d'une unité d'extension VARI-E, l'unité d'extension doit être fixée [...]	If the line array to be mounted consists of a VARI base unit plus a VARI-E extension unit, the extension unit should be [...]
Les séminaires constituent une <b>enceinte</b> permettant aux experts d'un certain domaine de se rencontrer et, avec le concours de la Commission, de se pencher sur des problèmes communs, de partager leurs [...]	Seminars provide a forum for persons that are highly skilled in a particular field to meet each other and, together with the Commission, discuss common problems, experiences and possible solutions.

# Different bilingual tools

## Machine translation systems (MT)

Artificial intelligence



## Aligned bilingual corpora

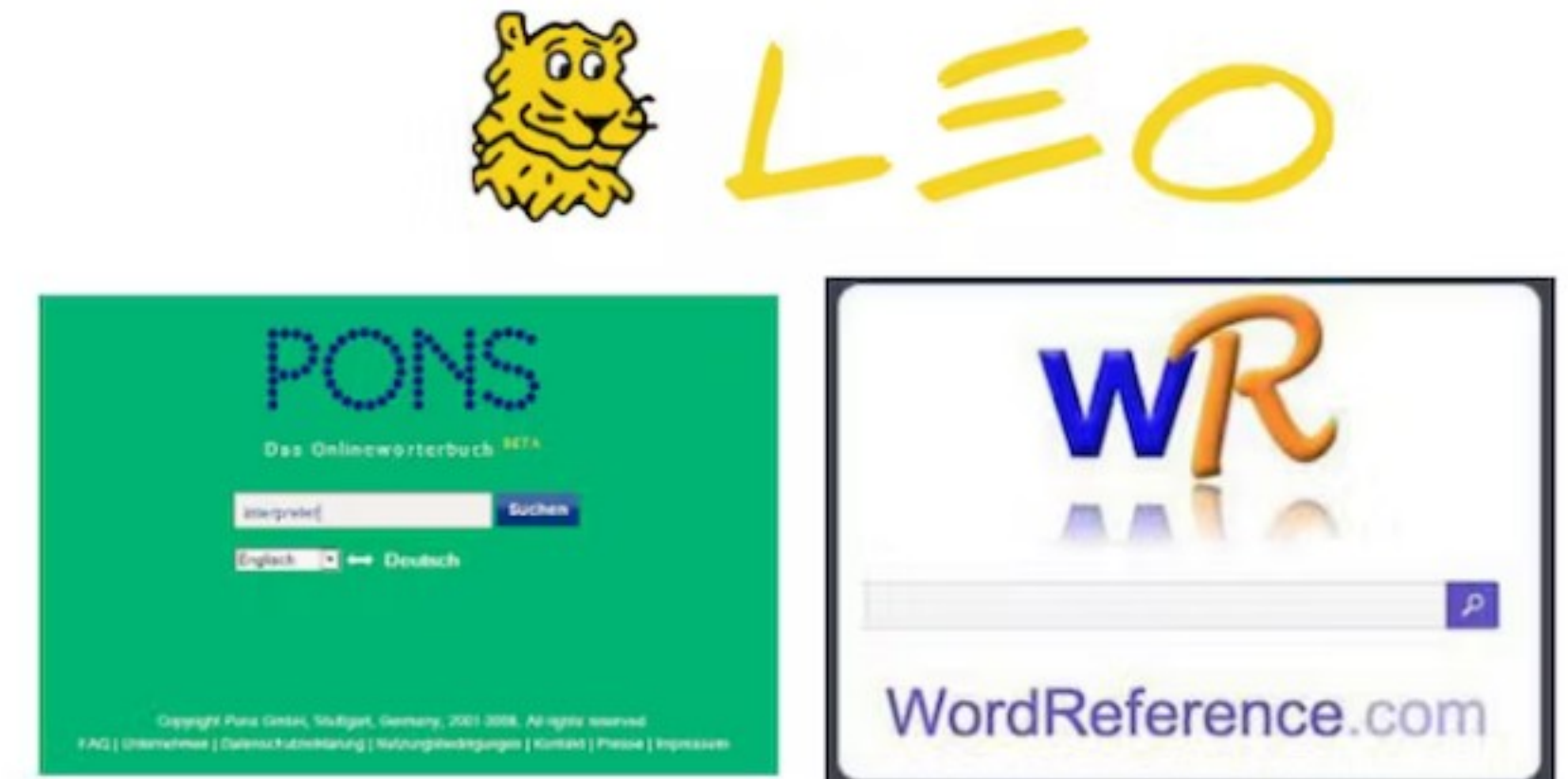
often aligned automatically



## Bilingual dictionaries


unequal content:

< lexicographers,  
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often, we don't know...



Translate and learn millions of words and expressions

Enter or paste your text  French English



 Translate your documents: Word, Powerpoint, PDF. Try for free.

 Reverso for Windows It's free


Reverso Context. Reverso Context Fr > En


J'ai besoin de réfléchir Fr > En

Je n'ai pas envie Fr > En







Register for free on Reverso and boost your memory with the search history and phrasebook.

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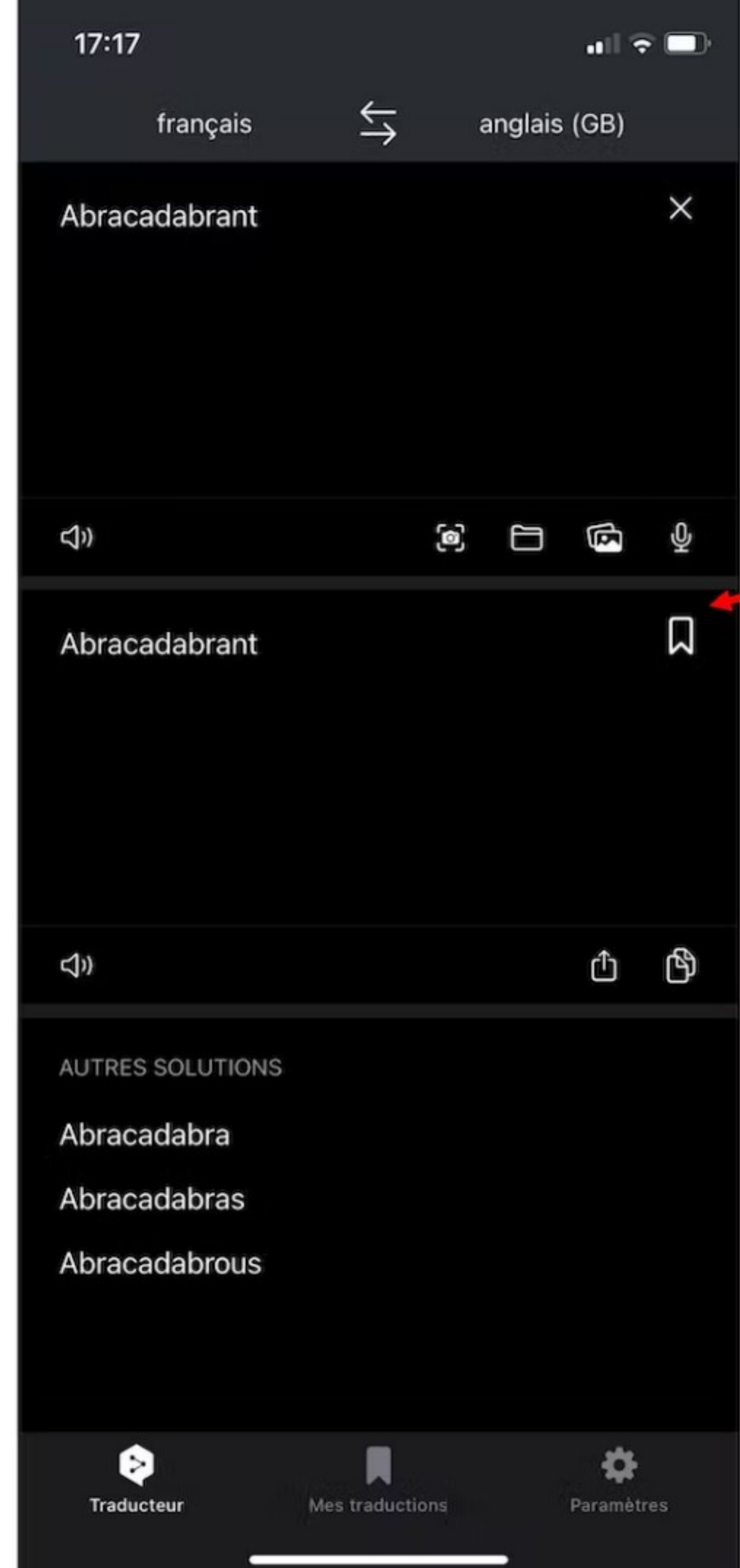
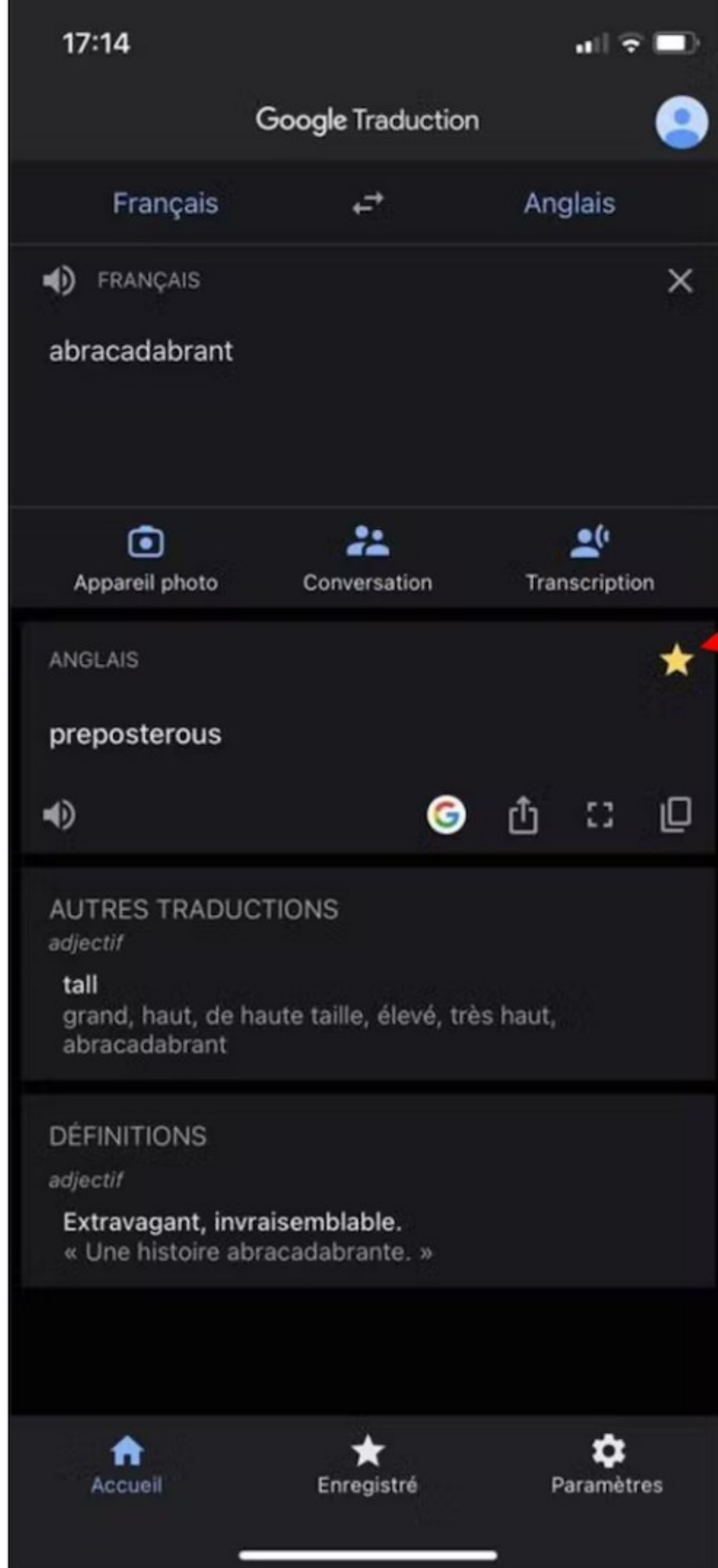
 Discover the story of Reverso Context, the redefined, AI-based dictionary and tips about how to make the best out of it

-  Documents
-  Dictionary
-  Collaborative Dictionary
-  Grammar
-  Expressio
-  Reverso Corporate

# Tool labelling is difficult

TOOL	MT system	Aligned corpus	Online dictionary
Reverso	✓	✓	✓
Pons	✓		✓
DeepL	✓		✓
GoogleTranslate	✓		✓
Linguee		✓	✓
Wordreference			✓


# Smartphone versions





# Part III: State of the art and concrete examples





A few myths that  
have been  
addressed by  
researchers



1

Many teachers assume that students simply write their texts in the L1 and translate them into the L2 with DeepL

## Observation:

---

Students use MT in many different ways (Hellmich 2021). For example, they translate their own L2 production back into L1 to check what they have written (Kennedy 2021)

MT is good for working on  
synonyms

## Observation

*Machine translationese*: MT output tends to use somewhat simplified standardised language. Lexical diversity thus decreases and the same expressions occur again and again. By searching for more specific and varied expressions, users can counteract this (Loock 2020)



MT hinders  
learning

## Observation 1

MT can help students improve their L2 reading comprehension (in the long term) (Rus Rucart 2021)



## Observation 2

---

MT reduces students' inhibitions to communicating in L2, increases motivation and confidence and provides a non-threatening learning environment (Lee 2020).



## Observation 3

Working with MT makes it possible to improve the following points: sentence length, lexical variety, sentence complexity (subordinate clauses, this point applies especially to less advanced learners) (Chung & Ahn 2021)





You can always give students a machine-translated text and get them to check it for linguistic errors.

# Observation

The perception that MT output provides a ‘bad model’ is outdated. Post-edition in L2 is often not effective because the students do not have a good enough command of the language, which is partly true even for L1 writers (Yamada 2020, Holt, Léchaugnette & Loock 2022)






Teachers can't ask their students to write a text at home anymore if they want to grade it and use it in the course assessment.

# Observation

Assessment need to be rethought in terms of what we ask students to accomplish. For example, we can include a metalinguistic component alongside the production of a written assignment (Knowles 2022, Pellet & Myers 2022).





For concrete examples  
of classroom activities  
with MT:

[READ OUR HANDOUT](#)

## Active part

Discussion and development of teaching scenarios

# Active part – Development of a teaching scenario

- ▶ In small groups or alone, you have 20 minutes to develop a teaching scenario to implement MT in your teaching.
- ▶ Here are a few suggestions to get you started .....
- ❖ How could you integrate MT into a module that you're already teaching?
- ❖ Sketch a 90-minute lesson plan focusing on grammar, vocabulary, writing, speaking, etc.
- ❖ Think more globally about how you could train your students in MT literacy - what to tell them, how to change assessment, etc.



# References

**Bourdais, A. & Guichon, N. (2020)** Représentations et usages du traducteur en ligne par les lycéens. *Alsic* [En ligne], Vol. 23, n° 1, consulté le 03 avril 2022. DOI : <https://doi.org/10.4000/alsic.4533>

**Delorme Benites, A., Cotelli Kureth, S., Lehr, C. & Steele, E. (2021)** Machine translation literacy : a panorama of practices at Swiss universities and implications for language teaching. In: Zoghalmi, Naouel; Brudermann, Cédric et al.( eds.), *CALL and professionalisation: short papers from EUROCALL 2021. EUROCALL2021 : CALL & Professionalisation*, Paris (online). Research-publishing.net. pp. 80-87. Available from: <https://doi.org/10.14705/rpnet.2021.54.1313>

**Groves, M. & Mundt, K. (2021)** A ghostwriter in the machine? Attitudes of academic staff towards machine translation use in internationalised Higher Education. *Journal of English for Academic Purposes*, Volume 50, DOI: <https://doi.org/10.1016/j.jeap.2021.100957>

**Garcia, I., & Pena, M. I. (2011).** Machine translation-assisted language learning: Writing for beginners. *Computer Assisted Language Learning*, 24(5), 471-487. DOI : [10.1080/09588221.2011.582687](https://doi.org/10.1080/09588221.2011.582687)

**Hellmich, E.A. (2021)** Machine Translation in Foreign Language Writing: Student Use to Guide Pedagogical Practice, *Alsic* [En ligne], Vol. 24, n° 1, consulté le 03 avril 2022. DOI : <https://doi.org/10.4000/alsic.5705>

**Lee S.-M. (2020)** The impact of using machine translation on EFL students' writing, *Computer Assisted Language Learning*, 33:3, 157-175, DOI:10.1080/09588221.2018.1553186

**O'Neill, E. (2019).** Online Translator, Dictionary, and Search Engine Use Among L2 Students. *CALL-EJ*. 20. 154-177

**Valijärvi, R.L. & Tarsoly, E. (2019)** 'Language students as critical users of google translate': pitfalls and possibilities, *Practitioner Research in Higher Education Journal*, 12(1), p. 61-74.